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ND-23-0543  
10 CFR 52.99(c)(1)

U.S. Nuclear Regulatory Commission  
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Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 4  
ITAAC Closure Notification on Completion of ITAAC Item 2.6.04.02a [Index Number 622]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.6.04.02a [Index Number 622]. This ITAAC confirms that: Each as-built diesel generator automatically starts on receiving a simulated loss-of-voltage signal and attains a voltage of  $6900 \pm 10\%$  V and frequency  $60 \pm 5\%$  Hz after the start signal is initiated. The source circuit breakers and bus load circuit breakers are opened, and the generator circuit breaker is closed on the associated 6900 V bus. Each diesel generator provides power to the load with a generator terminal voltage of  $6900 \pm 10\%$  V and a frequency of  $60 \pm 5\%$  Hz. Displays of diesel generator status and electrical output power can be retrieved in the MCR. Controls in the MCR operate to start and stop each diesel generator. The closure process for this ITAAC is based on the guidance described in Nuclear Energy Institute (NEI) 08-01, "Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52," which was endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) request NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,



Jamie M. Coleman  
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.6.04.02a [Index Number 622]

JMC/KIK/ sfr

cc:     Regional Administrator, Region II  
          Director, Office of Nuclear Reactor Regulation (NRR)  
          Director, Vogtle Project Office NRR  
          Senior Resident Inspector – Vogtle 3 & 4

**Southern Nuclear Operating Company  
ND-23-0543  
Enclosure**

**Vogtle Electric Generating Plant (VEGP) Unit 4  
Completion of ITAAC 2.6.04.02a [Index Number 622]**

## **ITAAC Statement**

### **Design Commitment**

2.a) On loss of power to a 6900 volt diesel-backed bus, the associated diesel generator automatically starts and produces ac power at rated voltage and frequency. The source circuit breakers and bus load circuit breakers are opened, and the generator is connected to the bus.

2.b) Each diesel generator unit is sized to supply power to the selected nonsafety-related electrical components.

3. Displays of diesel generator status (running/not running) and electrical output power (watts) can be retrieved in the MCR.

4. Controls exist in the MCR to start and stop each diesel generator.

### **Inspections, Tests, Analyses**

Tests on the as-built ZOS system will be conducted by providing a simulated loss-of-voltage signal. The starting air supply receiver will not be replenished during the test.

Each diesel generator will be operated with a load of 4000 kW or greater and a power factor between 0.9 and 1.0 for a time period required to reach engine temperature equilibrium plus 2.5 hours.

Inspection will be performed for retrievability of the displays in the MCR.

A test will be performed to verify that controls in the MCR can start and stop each diesel generator.

### **Acceptance Criteria**

Each as-built diesel generator automatically starts on receiving a simulated loss-of-voltage signal and attains a voltage of  $6900 \pm 10\%$  V and frequency  $60 \pm 5\%$  Hz after the start signal is initiated. The source circuit breakers and bus load circuit breakers are opened, and the generator circuit breaker is closed on the associated 6900 V bus.

Each diesel generator provides power to the load with a generator terminal voltage of  $6900 \pm 10\%$  V and a frequency of  $60 \pm 5\%$  Hz.

Displays of diesel generator status and electrical output power can be retrieved in the MCR.

Controls in the MCR operate to start and stop each diesel generator.

## **ITAAC Determination Basis**

Pre-operational testing of the Onsite Standby Power System (ZOS) was performed to demonstrate that with a loss of power on the associated 6900 volt (V) diesel-backed bus, the diesel generator automatically started and produced AC power at rated voltage and frequency. The source circuit breakers and bus load circuit breakers were opened, and the generator was connected to the bus. Each diesel generator unit was also tested to demonstrate it is sized to supply power to the selected nonsafety-related electrical components, that displays of the generator status (running/not running) and electrical output power (watts) are retrievable in the Main Control Room (MCR), and that controls exist in the MCR to start and stop each generator.

Each as-built diesel generator automatically starts on receiving a simulated loss-of-voltage signal and attains a voltage of  $6900 \pm 10\%$  V and frequency  $60 \pm 5\%$  Hz after the start signal is initiated. The source circuit breakers and bus load circuit breakers are opened, and the generator circuit breaker is closed on the associated 6900 V bus.

The as-built diesel generators were tested in accordance with the preoperational work packages listed in Reference 1. The Data Display and Processing System (DDS) and local observation was utilized to monitor and record the status of the diesel generator, the diesel-backed 6900 V bus, the source circuit breakers, the bus load circuit breakers, the generator circuit breaker, and the generator voltage and frequency. The diesel generator automatic start was tested with the diesel starting air compressor disabled.

A test signal was provided to simulate a loss-of-voltage signal from the associated diesel-backed bus. The opening of the source circuit breakers and bus load circuit breakers, and the automatic start of the diesel generator was verified. The diesel generator voltage of  $6900 \pm 10\%$  V and frequency  $60 \pm 5\%$  Hz was also verified after the start signal was initiated. The test results are included in Reference 1 and confirmed that each as-built diesel generator automatically started on receiving a simulated loss-of-voltage signal and attained a voltage of  $6900 \pm 10\%$  V and frequency  $60 \pm 5\%$  Hz after the start signal was initiated. Also the source circuit breakers and bus load circuit breakers opened, and the generator circuit breaker closed on the associated 6900 V bus.

Each diesel generator provides power to the load with a generator terminal voltage of  $6900 \pm 10\%$  V and a frequency of  $60 \pm 5\%$  Hz.

A load test of each diesel generator was performed in accordance with preoperational work packages listed in (Reference 1). The diesel generator was synchronized to an offsite power source and loaded to 4000 kW or greater with a power factor between 0.9 and 1.0. The engine temperature was monitored to determine when equilibrium was reached, and then the diesel generator was operated at 4000 kW or greater load with a power factor between 0.9 and 1.0 for an additional 2.5-hours.

The diesel generator terminal voltage and frequency were monitored in 30-minute intervals during the 2.5-hour load test after reaching temperature equilibrium to verify the load was maintained at 4000 kW or greater with a power factor between 0.9 and 1.0, and that voltage of  $6900 \pm 10\%$  V and frequency at  $60 \pm 5\%$  Hz was maintained. The test results listed in Reference 1 confirms that each diesel generator provided power to the load with a generator terminal voltage of  $6900 \pm 10\%$  V and a frequency of  $60 \pm 5\%$  Hz.

Displays of diesel generator status and electrical output power can be retrieved in the MCR.

The displays of diesel generator status and electrical output power in the MCR were verified in accordance with component test work packages listed in Reference 2. Each diesel generator was started and stopped from the MCR to verify running/not running and electrical output power (watts) indications are retrievable in the MCR. The test results are included in Reference 2 and confirm that displays of diesel generator status and electrical output power can be retrieved in the MCR.

**Controls in the MCR operate to start and stop each diesel generator.**

The controls to start and stop the diesel generators from the MCR were verified in accordance with component test work packages listed in (Reference 2). Each diesel generator was started and stopped from the MCR. The test results are included in Reference 2 and confirm that controls in the MCR can start and stop each diesel generator.

References 1 and 2 are available for NRC inspection as part of Unit 4 ITAAC Completion Package (Reference 3).

**ITAAC Finding Review**

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of findings pertaining to the subject ITAAC and associated corrective actions. This review found there are no relevant ITAAC findings associated with this ITAAC. The review is documented in the ITAAC Completion Package (Reference 3) and is available for NRC review.

**ITAAC Completion Statement**

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.6.04.02a was performed for VEGP Unit 4 and that the prescribed acceptance criteria are met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

**References (available for NRC inspection)**

1. SV4-ZOS-ITR-800622, Rev 0, "Unit 4 Recorded Results of Onsite Standby Power System (ZOS) diesel generator performance testing: ITAAC 2.6.04.02a Item 2.a) and 2.b)  
NRC Index Number: 622"
2. SV4-ZOS-ITR-801622 Rev. 0, "Unit 4 Recorded Results of Onsite Standby Power System (ZOS) diesel generator controls and indications: ITAAC 2.6.04.02a Item 3 and 4  
NRC Index Number: 622"
3. 2.6.04.02a- U4-CP-Rev0, "ITAAC Completion Package"